

CLAIM AMENDMENTS

Claim 5

Line 2, after “claim” delete “24” and insert -28-.

Line 3, after “resistant” delete “and adhesion promoting”.

Claim 6

Line 2, after “claim” delete “25, or 26, or 27” and insert – 29, or 30, or 31 -.

Line 3, after “resistant” delete “and adhesion promoting”.

Claim 7

Line 2, after “ claim” delete 24, or 25, or 26, or 27” and insert – 28, or 29, or 30, or 31-.

Claim 12

Line 2, after “claim” delete “24, or 25, or 26, or 27” and insert – 28, or 29, or 30, or 31-.

Line 3, after “of” insert – removing said coating in the -.

Claim 13

Line 2, after “claim” delete “ 24, or 25, or 26, or 27” and insert -28, or 29, or 30, or 31-.

Line 3, after “of” insert – removing said coating in -.

Claim 14

Line 3, after “dip-coated” delete “by” and insert – with -.

Claim 15

Line 2, after ”a” delete “solid metal grid” and insert - grid of a solid metal -.

Claim 16

Line 2, after "expanded" delete "solid metal foil" and insert - foil of a solid metal -.

Claim 17

Line 2, after "perforated" delete "solid metal foil" and insert -foil of solid a solid metal-.

Claim 18

Line 2, after "a" delete "solid metal foil" and insert - foil of a solid metal -.

Claim 19

Line 3, after "resistant" delete "and adhesion promoting".

Claim 23

Line3, after "dip-coated" delete "by" and insert -with -.

Claim 24

Cancel claim 24.

Claim 25

Cancel claim 25.

Claim 26

Cancel claim 26.

Claim 27

Cancel claim 27.

Add new claims 28, 29, 30, and 31 as shown bellow.

CLAIMS

Claim 1 (canceled)

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (canceled)

Claim 5 (currently amended):

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 24 28, in which said length of said grid is treated by a solvent resistant and adhesion promoting primer, prior to said dip-coating.

Claim 6 (currently amended):

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim ~~25, or 26, or 27~~ 29, or 30, or 31, in which said length of said foil is treated by a solvent resistant and adhesion promoting primer, prior to said dip-coating.

Claim 7 (currently amended) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim. ~~24, or 25, or 26, or 27~~ 28, or 29, or 30, or 31, in which said slurry includes at least two solvents of different evaporation rate, an active material, a carbon black and a polymer binder.

Claim 8 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 7, in which said solvents include acetone in the range of 42 to 54 weight % (percent) and N-methylpyrrolidinone in the range of 6 to 23 weight % (percent), said polymer binder is polyvinylidene fluoride homopolymer in the range of 1 to 8 weight % (percent), said active material is in the range of 24 to 37 weight % (percent), and said carbon black is in the range of 1 to 8 weight % (percent).

Claim 9 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices ; and capacitors, as described in claim 5 , in which said primer is a mixture of a solution of lithium polysilicate in water and a carbon black.

Claim 10 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 5 , in which said primer is a mixture of a carbon black and a solution of polyvinylidene fluoride homopolymer in at least two solvents.

Claim 11 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 5, in which said length has masked areas of intended terminal tabs by solvent resistant adhesive tapes, prior to said primer treatment, and said adhesive tapes are removable.

Claim 12 (currently amended):

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim ~~24, or 25, or 26, or 27~~ 28, or 29, or 30, or 31,
which additionally includes and electrode cleaning step of removing said coating in
the intended terminal tabs area by buffing and vacuuming after said coating.

Claim 13 (currently amended) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim ~~24, or 25, or 26, or 27~~ 28, or 29, or 30, or 31,
which additionally includes an electrode cleaning step of removing said coating in the
intended terminal tabs area by sand blasting and vacuuming after said coating.

Claim 14 (currently amended):

Manufacturing method for lithium based electrochemical devices and capacitors, as described in claim 5, in which said primer is a mixture of a solution of lithium polysilicate in water and a carbon black, and a said length is dip-coated by with said primer and is pulled over a roller horizontally after dipping while hot air is applied on said coating.

Claim 15 (currently amended) :

Electrode structure for lithium based electrochemical devices and capacitors, which includes a ~~solid metal grid~~ grid of a solid metal and an electrode material coating on said grid, the improvement therein said grid is embedded in the middle of said coating by a dip-coating method.

Claim 16 (currently amended) :

Electrode structure for lithium based electrochemical devices and capacitors, which includes an expanded ~~solid metal foil~~ foil of a solid metal and an electrode material coating on said foil, the improvement therein said foil is embedded in the middle of said coating by a dip-coating method.

Claim 17 (currently amended) :

Electrode structure lithium based electrochemical devices and capacitors,
which includes a perforated ~~solid metal foil~~ foil of a solid metal and an electrode material
coating on said foil, the improvement therein said foil is embedded in the middle of said
coating by a dip-coating method.

Claim 18 (previously presented) :

Electrode structure for lithium bases electrochemical devices and capacitors,
which includes a ~~solid metal foil~~ foil of a solid metal and electrodes material
coating on said foil, the improvement therein said foil is embedded in the middle of said
coating by a dip-coating method.

Claim 19 (currently amended) :

Electrode structure for lithium based electrochemical devices and capacitors,
as described in claim 15, or 16, or 17, or 18 , in which said grid or foil is treated by
a solvent resistant ~~and adhesion promoting~~ primer before said coating.

Claim 20 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 6, in which said primer is a mixture of a solution of lithium polysilicate in water and a carbon black.

Claim 21 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 6, in which said primer is a mixture of a carbon black and a solution of polyvinylidene fluoride homopolymer in at least two solvents.

Claim 22 (previously presented) :

Manufacturing method of electrodes for lithium based electrochemical devices and capacitors, as described in claim 6, in which said length has masked areas of intended terminal tabs by solvent resistant adhesive tapes, prior to said primer treatment, and said adhesive tapes are removable.

Claim 23 (currently amended) :

Manufacturing method for lithium based electrochemical devices and capacitors, as described in claim 6, in which said primer is a mixture of a solution of lithium polysilicate in water and a carbon black, and a said length is dip-coated by with said primer and is pulled over a roller horizontally after dipping while hot air is applied on said coating.

Claim 24 (canceled)

Claim 25 (canceled)

Claim 26 (canceled)

Claim 27 (canceled)

Claim 28 (new):

A manufacturing method of electrodes for lithium based electrochemical devices and capacitors, comprising the sequential steps of

providing a length of a metal grid,

feeding said length into a dip-tank at a controlled speed using driven nip-rollers,

dip-coating said length with an active material slurry,

pulling said length vertically upward through a solidification chamber,

solidifying said length in said chamber, and

winding said coated length onto a driven spool using an overdrive system with a slip clutch.

Claim 29 (new):

A manufacturing method of electrodes for lithium based electrochemical devices and capacitors, comprising the sequential steps of

providing a length of an expanded metal foil,

feeding said length into a dip-tank at a controlled speed using driven nip-rollers,

dip-coating said length with an active material slurry,

pulling said length vertically upward through a solidification chamber,

solidifying said length in said chamber, and

winding said coated length onto a driven spool using an overdrive system with a slip clutch.

Claim 30 (new):

A manufacturing method of electrodes for lithium based electrochemical devices and capacitors, comprising the sequential steps of

providing a length of a perforated metal foil,
feeding said length into a dip-tank at a controlled speed using driven nip-rollers,
dip-coating said length with an active material slurry,
pulling said length vertically upward through a solidification chamber,
solidifying said length in said chamber, and
winding said coated length onto a driven spool using an overdrive system with a slip clutch.

Claim 31 (new):

A manufacturing method of electrodes for lithium based electrochemical devices and capacitors, comprising the sequential steps of

providing a length of a solid metal foil,
feeding said length into a dip-tank at a controlled speed using driven nip-rollers,
dip-coating said length with an active material slurry,
pulling said length vertically upward through a solidification chamber,
solidifying said length in said chamber, and
winding said coated length onto a driven spool using an overdrive system with a slip clutch.